

This listing of claims presented below replaces all prior versions and listings of claims in the application.

Listing of Claims

IN THE CLAIMS

Claims 1-36 (cancel).

37. (Previously Presented) An isolated nucleic acid molecule encoding a polypeptide with an antioxidant activity comprising an active fragment of human peroxiredoxin (DELTA.Prx V1hum) of SEQ ID NO:4 wherein said SEQ ID NO:4 has a length of 177 ab.

38. (Previously presented) An expression vector comprising the isolated nucleic acid molecule of claim 37, operationally associated with a promoter.

39. (Previously presented) A cell comprising the expression vector of claim 38.

40. (Previously Presented) A method for producing a recombinant active fragment of human peroxiredoxin DELTA.Prx V1hum having an amino acid sequence of SEQ ID NO:4, which method comprises: (a) culturing the cell of claim 39 so that the active fragment of human peroxiredoxin DELTA.Prx V1hum is produced by the cell in a culture; and (b) recovering the active fragment of human peroxiredoxin DELTA.Prx.V1 hum from the culture, the cell, or both.

41. (Previously Presented) A pharmaceutical composition comprising the active fragment of recombinant human of peroxiredoxin DELTA.Prx.V1 hum of SEQ ID NO:4 and a pharmaceutically acceptable carrier.

42. (Previously Presented) The pharmaceutical composition of claim 41, wherein said pharmaceutical composition comprises the fragment of recombinant human peroxiredoxin DELTA.PRX.VI hum with an antioxidant activity of SEQ ID NO:4, a pharmaceutically acceptable carrier and further comprises recombinant human peroxiredoxin VI with an antioxidant activity of SEQ ID NO:2, a dihydrolipoic acid or both.

43. (Previously presented) The pharmaceutical composition according to claim 42, wherein the ratio (w/w) of human peroxiredoxin DELTA.Prx.V1 hum to dihydrolipoic acid is from 1:1 to 50:1.

Claim 44. (Previously presented) The pharmaceutical composition according to claim 42, wherein the ratio (w/w) of peroxiredoxin. Prxhum to dihydrolipoic acid is from 1:1 to 50:1.

Claim 45.(Withdrawn) A method for enhancing antioxidant protection in a mammal comprising administering the composition according to claim 41 to the mammal.

Claim 46. (Withdrawn) A method for enhancing antioxidant protection in a mammal comprising administering to the mammal the composition according to claim 41 and another therapeutic agent that is administered to the mammal before, simultaneously with or after the composition according to claim 41.

Claim 47. (Cancel)

Claim 48. (Cancel)

Claim 49. (Cancel)

Claim 50. (Withdrawn) A method for enhancing antioxidant protection in a mammal comprising administering the composition according to claim 42 to the mammal.

Claim 51. (Withdrawn) A method for enhancing antioxidant protection in a mammal comprising administering to the mammal the composition according to claim 42 and another therapeutic agent that is administered to the mammal before, simultaneously with or after the composition according to claim 42.

Claim 52. (Cancel)

Claim 53. (Cancel)

Claim 54. (Cancel)

55. (New) An isolated nucleic acid molecule encoding a polypeptide with an antioxidant activity consisting of N-terminal fragment of Prx 6 wherein said fragment is represented by of SEQ ID NO:4 wherein said SEQ ID NO:4 has a length of 177 ab.

56. (New) An expression vector comprising the isolated nucleic acid molecule of claim 55, operationally associated with a promoter.

57. (New) A cell comprising the expression vector of claim 56.

58. (New) A method for producing a recombinant active fragment of human peroxiredoxin DELTA.Prx V1hum having an amino acid sequence of SEQ ID NO:4, which method comprises: (a) culturing the cell of claim 57 to produce the active fragment of human peroxiredoxin DELTA.Prx V1hum by the cell in a culture; and (b) recovering the active fragment of human peroxiredoxin DELTA.Prx.V1 hum from the culture, the cell, or both.

59. (New) A pharmaceutical composition comprising the polypeptide of claim 55 and a pharmaceutically acceptable carrier.

60. (New) The pharmaceutical composition of claim 59, further comprising recombinant human peroxiredoxin VI with an antioxidant activity of SEQ ID NO:2, a dihydrolipoic acid or both.

61. (New) The pharmaceutical composition according to claim 60, wherein the ratio (w/w) of human peroxiredoxin DELTA.Prx.V1 hum to dihydrolipoic acid is from 1:1 to 50:1.